Course Agenda

Wastewater Pumping System Operations

Day 1

08:00 – 9:45 Registration, Operator Discussion, Course Overview

09:45 - 10:00 Break

10:00 – 12:00 Lift Station Types and Equipment – Section 1

Exercise 1-1: Lift Station Calibration

12:00 - 1:00 Lunch

01:00 – 2:00 Force Mains, Valves and Fittings – Section 2

Exercise 2-1: Force Main Velocity Evaluation

Demonstration 1: Pipeline Velocity

2:00 – 3:00 Air and Control Valve Presentation, Water Hammer

Demonstration 2: Pipeline Air

Demonstration 3: Air and Vacuum Valve Inspection

3:00 - 3:15 Break

3:15 – 5:00 Electrical Terms, Meter Use – Section 3

Exercise 3-1: Resistance Measurements

Exercise 3-2: Electrical Meter Use, resistance, voltage and amperage

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Day 2

08:00 - 10:00 Pumps, Pump Components, and Operation - Section 4

Exercise 4-1: Pump Examination Exercise:

- 10:00 10:15 Break
- 10:15 12:00 Electric Motors Discussion Section 4

Exercise 4-2: Motor Inspection and Data Record

Exercise 4-3: Motor Resistance Checks and Record

- 12:00 1:00 Lunch
- 1:00 1:30 *Exercise 4-4 Pump Charting*
- 1:30 2:30 Safety, NFPA, OSHA, Health Hazards Section 5
- 2:30 2:45 Break
- 2:45 3:30 Emergency Planning Section 6

Exercise 6-1: Lift Station Emergency

3:30-5:00 Master Panel Demonstration - Introduction to Controls - Sections 7 & 10

Exercise 7-1: Control Systems – operational checks of floats, probes Exercise 10-1 - Soft Starter and VFD

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Day 3:

08:00 - 08:45 Clean Water Act - CMOM - Section 8

Exercise 8-1: CMOM Checklist

08:45 - 09:30 Record Keeping - Preventive Maintenance Schedules - Section 9

09:30 - 09:45 Break

09:45 – 10:45 Other Lift Station Operation Issues – Section 11

10:45–12:00 Troubleshooting Techniques

Exercise 12-1: Baseline Operational Data – Auto Position

12:00 - 1:00 Lunch

1:00-4:00 Troubleshooting

Exercise 12-2: Troubleshooting Exercise

4:00-5:00 Closeout Discussion